

Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

**Remarks/Arguments**

Claims 1-21 are pending and stand rejected on varying grounds under § 103(a).

No Claims have been amended. No new matter has been added by any amendments.

In view of the comments below Applicant respectfully requests that the Examiner reconsider the present application including claims 1-21, withdraw the rejection of these claims, and move this application to allowance.

Applicant is appreciative of the obvious efforts that have been extended in searching and examining the present application.

a) Claims 1-2 and 6 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Dehner, et al (US Pat. No.6,882,677 B2) in view of Larsen, et al. (U.S. Pub. No. 2001/0036810 A1) in view of Gwon, et al. (US Pub. No. 2003/0016655 A1).

As noted in one or more previous Responses: Claim 1 is in independent form with claim 2 and 6 dependent thereon. As noted in earlier communication, Dehner, et al and Gwon et al. qualify as prior art if at all only under 102(e) and Applicant reserves the right to file an appropriate Declaration regarding conception and due diligence, if needed.

The Examiner cites Dehner et al. and others in the rejection of claim 1. Claim 1 defines an approach for communicating in and around a localized wireless coverage area with specific features speaking to what happens when communication is established via a wide area network when the source mobile subscriber is outside a neighborhood cell and subsequently determines

Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

that a neighborhood cell is available and that the source unit is a subscriber thereto, i.e., a handoff from the wide area network to the ad hoc wireless network is undertaken. Dehner et al speaks only to handoffs from one NAP to another NAP and never discusses a handoff from a wide area network to a local area or ad hoc network. The only mention of a wide area network made by Dehner et al is noting that such networks have included handoff provisions (see col. 4, lines 55-56). Thus Applicant respectfully submits that Dehner et al is not a relevant reference and thus not a proper reference for a rejection of pending claim 1.

Furthermore, with reference to claim 1, the Examiner maintains that "Dehner et al. discloses defining a neighborhood cell by transmitting a localized wireless coverage area-identifying signal (see col. 8, lines 53-58) (see col. 1, lines 13-30, Wireless LANs (WLANs) such as Bluetooth, Home RF, 802.11, ...these networks are designed and constructed to provide adhoc wireless network... .Essentially, in part to keep the networks simple and inexpensive, provisions for mobility management, such as handoff from one coverage area to another that may be considered and present in and associated with wide are networks (WLANs) such as cellular phone systems have not been included in WLAN) (see col. 4, lines 55-56);"

Applicant respectfully disagrees with the Examiner's assertion and notes that Dehner et al discusses an ad hoc network discovery scheme. According to Dehner et al "... the slave [communication unit] will broadcast an inquiry sequence and the master [NAP] will respond with a message indicating supported services and an ID (col. 3, lines 45-47). The slave then completes a service access routine." In Applicant's view this is different than transmitting a signal that identifies a localized wireless coverage area for a neighborhood cell all as claimed since the NAP would have to initiate broadcasting of this signal.

Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

The Examiner continues, alleging that Dehner et al shows or suggests "... Establishing communication between a source mobile subscriber unit (see col. 2, lines 60-67) and a destination unit when the source mobile subscriber unit is outside of the neighborhood cell (see col. 3, lines 1-5); receiving the localized wireless coverage area identifying signal (see col. 4, lines 55-56, discover other NAPs and exchange their respective IDs); switching over to ad hoc wireless network coverage when the source mobile subscriber unit enters the neighborhood cell to maintain the communication between the source mobile subscriber unit and the destination unit (col. 8, lines 3-5, communication continues and time seamless)"

Applicant respectfully disagrees for a variety of reasons. In addition to the discussions above noting that Dehner et al does not show or suggest the claimed transmitting a localized wireless coverage area identifying signal, there is no suggestion that the source mobile subscriber unit receives such a signal. The passage at col. 4, lines 55-56 speaks to the NAPs of Dehner exchanging information pursuant to setting up a network between these NAPs and has nothing to do the source or destination units receiving such a signal.

Furthermore, Applicant respectfully disagrees noting that in Dehner et al, the source mobile subscriber unit never switches a communication on a wide area network over to ad hoc wireless network coverage as this subscriber unit is always on the ad hoc network and merely switches from one NAP to another NAP via the processes, etc. disclosed (see abstract among other passages, FIG. 7; 703, 709, 713). The Examiner concedes as much noting "... Dehner et al. is silent to disclosing if the establishing of communication between a source mobile subscriber unit and a destination unit is achieved through wide area network coverage when the source mobile

Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

subscriber unit is outside of the neighborhood cell, switching over to ad hoc wireless network coverage."

The Examiner then refers to Larsen et al, FIG. 8, [0006], [0008] and [0015], as disclosing a system of communicating in and around a localized wireless coverage area and further maintains that the cited passages of Larsen et al show or suggest "Establishing communication (see figure 8, [0006] [0008] [0015]) between a source mobile and a destination unit" as well as other claimed features noted below.

Specifically Larsen et al (above cited passages) is construed by the Examiner to show or suggest the claimed "if the establishing of communication between a source mobile subscriber unit and a destination unit is achieved through wide area network coverage when the source mobile subscriber unit is outside of the neighborhood cell, switching over (handoff) to ad hoc wireless network coverage when the source mobile subscriber enter the neighborhood cell, receiving the localized wireless coverage are identifying signal (broadcast probing message), switching over to ad hoc wireless network coverage when the source mobile subscriber unit enters the neighborhood cell; and

"if the establishing of communication between a source mobile subscriber unit and a destination unit is achieved through the ad hoc wireless network. coverage when the source mobile subscriber unit is within the neighborhood cell, switching over to the wide area network coverage when the source mobile subscriber mobile unit exists the neighborhood cell."

In Applicant's respectfully considered view this construction of Larsen et al is erroneous and unfounded. In Applicant's view Larsen et al shows a cellular communication system and various ODMA (opportunity driven multiple access) techniques for extending the coverage of

Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

that phone system (particularly extending the coverage for data services to that expected for voice services (see [0194] and FIG. 8). Larsen et al essentially uses a version of what is now known as mesh networking and various mobile stations along a path from a called or calling mobile station to a base station to relay data from or to the mobile station. Larsen discusses at length the particulars of finding the appropriate path for setting up a MT (mobile terminated) or MO (mobile originated) call, however nothing is said about switching over a call dependent on where originated (wide area network or ad hoc network) and availability of coverage all as claimed. In Larsen et al the only mention of mobility issues is [0031] where it is noted that a mobile that has changed from one base station to another in the wide area network sends a location update which is stored in a central database. Thus Applicant respectfully submits that the Examiner's construction of Larsen et al is unfounded and that neither Dehner et al or Larsen et al or any combination of these references can be read to show or suggest the features of claim 1 or any claims dependent thereon.

Larsen et al does discuss a last hop node as a fixed (seed) node and this node does support setting up paths for the mobile stations; however nothing other than setting up a MT or MO call is discussed (see [0195] et sequence). Thus the features of claim 2 are not shown or suggested by Larsen et al or Dehner et al or any combination thereof.

The Examiner concedes that "... the combined system (Dehner - Larsen) is silent to disclosing determining whether the source mobile subscriber unit is a subscriber on the neighborhood cell and if the source mobile subscriber unit is a subscriber, switching over to wireless network coverage when the source mobile subscriber unit enter the neighborhood cell to maintain the communication between the source mobile subscriber unit and the destination unit."

Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

The Examiner then maintains that Gwon et al shows or suggests among other features "determining whether the source mobile subscriber unit is a subscriber on the neighborhood cell and if the source mobile subscriber unit is a subscriber, switching over (see page 6, [0051], authentication, security process)."

Applicant respectfully disagrees and maintains that Gwon et al's system is supporting a handoff between IP routers, but the wireless air interface is consistent between router coverage areas in the same way that a cellular subscriber handoffs between base stations uses the same cellular air interface. Cellular systems also perform authentication when handing over between cells. But the present claims are referring to a handoff from a cellular wide area air interface to an ad hoc air interface (such as 802.11) and vice-a-versa. This requires validation that the subscriber is allowed to be serviced by a different network each time the handoff occurs and no such teaching is made in Gwon et al.

Thus and in view of the above discussions it is clear that these three references taken individually or in any combination do not show or suggest all features of claim 1 or any claims dependent on claim 1 (i.e., claims 2-8).

Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 1-2 and 6 under 35 U.S.C. 103(a) as being unpatentable over Dehner, et al (US Pat. No.6,882,677 B2) in view of Larsen, et al. (U.S. Pub. No. 2001/0036810 A1) and further in view of Gwon et al. (U.S. Patent No. 2003/0016655 A1).

Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

b) Claims 3-5, 7 and 8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the combined system (Dehner-Larsen-Gwon) in view of Razavillar, et al. (U.S. Pat. No. 7,009,952 B1).

Claims 3-5, 7, and 8 are dependent on claim 1. As noted above, claim 1 appears to be allowable over the cited references (Dehner et al, Larsen et al, and Gwon et al). Thus at least by virtue of dependency, claims 3-5, 7, and 8 should also be allowable.

Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 3-5, 7, and 8 under 35 U.S.C. 103(a) as being unpatentable over Dehner, et al (US Pat. No.6,882,677 B2) in view of Larsen, et al. (U.S. Pub. No. 2001/0036810 A1) and Gwon et al. (U.S. Patent No. 2003/0016655 A1) and further in view of Razavilar, et al., (US Pat. No.7,009,952 B1).

c) Claims 9-10 and 11-12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Dehner, et al (US Pat. No.6,882,677 B2) in view of Larsen, et al. (U.S. Pub. No. 2001/0036810 A1) in view of Gwon, et al. (US Pub. No. 2003/0016655 A1).

Claim 9 is independent in form with claims 10 and 11-12 dependent thereon. Claim 9 defines a method of establishing a packet data route via a wide area network, e.g., cellular network and responsive to excess frame errors via the wide area network, switching over to an ad-hoc network coverage when an appropriate cell is available and authorized (subscription in affect). E.g., when excess frame errors are detected and the unit is near a local coffee shop with

Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

ad-hoc coverage, the unit can switch over to the coffee shop ad-hoc system. Claim 9 specifically recites:

“A method of communicating in and around a localized wireless coverage area, comprising:  
establishing a data packet route to a destination unit through wide area network coverage;  
determining whether a predetermined number of network frame errors have been received subsequent to the establishing of a wide area communication route to a destination unit through a wide area network coverage mode of operation; and  
switching over to ad hoc wireless network coverage to maintain the data packet route to the destination unit upon determining that the data packet route is being disrupted and upon entry into a defined neighborhood cell, the switching over further conditioned on receiving a localized wireless coverage area identifying signal and determining whether service is available and authorized in the defined neighborhood cell.”

Referring to claim 9, the Examiner maintains that “Dehner discloses determining whether a predetermined number of network frame errors (see col. 5, lines 3-5) have been received *subsequent* to the establishing of a wide area communication route to a destination (see col. 5, lines 3-5, signal quality such received signal strength (RSSI), or bit error rate)” and then seemingly contradicts this allegation with “However Dehner is silent to disclosing the establishing of a wide area communication route to a destination unit through a wide area network coverage mode of operation.”

The Examiner then alleges that “Larsen discloses establishing a data packet to a destination unit through wide area network coverage (see figure 8, [0006] [0008] [0015]); the establishing of a wide area communication route to a destination unit through a wide area



Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

network coverage mode of operation; switching over (see figure 8, [0006] [0008] [0015]) to ad hoc wireless network coverage upon determining that the data packet route is being disrupted and upon entry into a defined neighborhood cell; switching over further conditioned on received a localized wireless coverage area identifying signal (see figure 8, [0006] [0008] [0015]) and determining whether service is available is in the defined neighborhood cell.(see figure 8, [0006] [0008] [0015]).

From the discussions above with reference to claim 1 etc., Applicant submits in stark contrast to the Examiner's views, that Larsen et al does not show or suggest switching between wide area and ad hoc coverage or doing so based on the claimed circumstances (origin of call, etc.). Larsen et al merely extends the wide area coverage using mesh network techniques and no switching within or between a wide area network and ad hoc network is discussed or contemplated by Larsen et al.

The Examiner continues noting "However, the combined system (Dehner - Larsen) are silent to disclosing authorized in the defined neighborhood cell." The Examiner then reiterates comments from the previous Office Action and maintains that Gwon et al provides the missing teachings among others.

From one or more earlier responses, Applicant noted that Gwon discusses a third generation mobile access IP data network [0029] and more specifically an IMT-2000 cellular system [0016], [0036]. As Gwon notes (CDMA, W-CDMA) [0040 - 0041] and as is well known, third generation cellular systems use a single air interface (e.g., air interface between BTS 150 and mobile nodes 135, 140) and data is formed into IP data packets, which are

Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

delivered to the IP network via the air interface, specifically cellular traffic channel data frames. Gwon does show or suggest a data packet routed from one unit (mobile node 135) to a destination unit (correspondent node 140). Gwon does discuss handing off a mobile node from one agent to another where these agents may be accessed via different cellular base transmitter sites (BTS) 150 (see FIG. 4 for example). Gwon specifically discusses a cellular handoff from one BTS to another BTS that requires IP data packets to be address reconfigured and routed into the data network using care of address procedures as defined by Mobile IP and IETF RFC 2261 (see FIG. 2, 3 and corresponding discussions [0044-0051]). Gwon discusses a scheme whereby handoffs within a cellular system can be predicted and thus any latency required for the handoff can allegedly be improved (see abstract for example).

Gwon does not show or suggest anything that remotely resembles an ad-hoc network or ah-hoc network coverage or any hand off from a wide area network or cellular network to any other network or any other ad-hoc network or vice-a-versa. The Examiner appears to consider a cellular BTS or BTS coverage area as an ad hoc network or ad hoc network coverage and somehow construes a handoff between different cellular BTS as the claimed wide area network to neighborhood cell (ad hoc) and neighborhood cell to wide area network communication switch over. This is clearly an improper construction of the reference and does not comport with the understanding of those of ordinary skill in the field.

Those of ordinary skill know that a BTS is part of a cellular system, e.g., the fixed transmitter that supports the cellular wide area air interface with mobile units. Similarly those of ordinary skill know that ad hoc systems or coverage areas are those where links or connections are "opportunity" based rather than generally pervasive (thus ad hoc). Since the ad hoc systems

Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

are not generally available, these systems use different air interface standards and conventions.

See the present specification, for example, paragraph beginning at page 4, line 14 for further clarification. All that Gwon et al. shows or suggests is a way of doing handoffs in a packet based cellular system that is akin to well known processes for handoffs within known cellular systems.

In view of the above discussion, the handoffs of Gwon et al, even if true, do not show or suggest the claimed switching over to ad hoc wireless network coverage ... as claimed. All that Gwon et al shows is hand offs or re-routing of IP messages within a network, e.g., a wide area network from one BTS to another BTS. While Gwon does discuss authentication within a wide area network, nothing is said or suggested about authorization on a different network, etc as noted above.

Furthermore none of the references show or suggest conditioning the switching over ... as claimed, i.e., conditioned on receiving coverage area identifying signal and determining whether service is authorized on the defined neighborhood cell.

Thus this combination of references does not show or suggest taken in any combination all features of claim 9 or at least by virtue of dependency, any of dependent claims 10-15.

Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 9-10 and 11-12 under 35 U.S.C. 103(a) as being unpatentable over Dehner, et al (US Pat. No.6,882,677 B2) in view of Larsen, et al. (U.S. Pub. No. 2001/0036810 A1) and further in view of Gwon, et al. (US Pub. No. 2003/0016655 A1).

Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

d) Claims 13-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the combined system (Dehner-Larsen-Gwon) in view of Olkkonen, et al. (U.S. Pat. No. 6,842,460 B1).

Claims 13-15 are dependent on claim 9 and claim 9 is believed to be allowable over these references. Thus at least by virtue of dependency, claims 13-15 should also be allowable.

Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 13-15 under 35 U.S.C. 103(a) as being unpatentable over Dehner, et al (US Pat. No.6,882,677 B2) in view of Larsen, et al. (U.S. Pub. No. 2001/0036810 A1) in view of Gwon, et al. (US Pub. No. 2003/0016655 A1) and further in view of Olkkonen, et al. (U.S. Patent No. 6,842,460 B1).

e) Claims 16-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Dehner, et al (US Pat. No.6,882,677 B2) in view of Larsen, et al. (U.S. Pub. No. 2001/0036810 A1) in view of Karaoguz (US Pat. No. 7,114,010 B2).

Claim 16 is independent and claims 17-20 are dependent on claim 16. Claim 16 defines a wireless neighborhood communications system and specifically recites as part of that system:

“a last hop node for defining a neighborhood cell;

a source mobile subscriber unit including a first source transceiver for communicating through wide area wireless network coverage outside of the neighborhood cell, and a second source transceiver for communicating through ad hoc wireless network coverage within the neighborhood cell;

Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

a destination unit including a first destination transceiver for communicating through the wide area wireless network coverage outside of the neighborhood cell, and a second destination transceiver for communicating through the ad hoc wireless network coverage within the neighborhood cell;

the last hop node further for causing the source mobile subscriber unit to communicate with the destination unit through the wide area wireless network coverage when the source mobile subscriber unit is outside of the neighborhood cell, and for causing the source mobile subscriber unit to communicate with the destination unit through the ad hoc wireless network coverage when the source mobile subscriber unit is within the neighborhood cell."

With reference to claim 16, the Examiner maintains that "Dehner discloses the source mobile subscriber unit to communicate with the destination unit through the wide area wireless network coverage when the source mobile subscriber unit is outside of the neighborhood cell, and for causing the source mobile subscriber unit to communicate with the destination unit through the ad hoc wireless network coverage when the source mobile subscriber unit is within the neighborhood cell (see col. 8, lines 53-58) (see col. 1, lines 13-30, Wireless LANs (WLANs) such as Bluetooth, Home RF, 802.11, ...these Networks are designed and constructed to provide adhoc wireless network... Essentially, in part to keep the networks simple and inexpensive, provisions for mobility management, such as handoff from one coverage area to another that may be considered and present in and associated with wide are networks (WLANs) such as cellular phone systems have not been included in WLAN) (see col. 4, lines 55-56)."

While Dehner et al mentions both ad hoc networks and cellular systems, nothing is said or suggested about causing communications via one network or the other. Thus, Applicant respectfully disagrees with the Examiner's above assertions.

Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

The Examiner concedes that "Dehner is silent to disclosing a last hop node for defining a neighborhood cell" but maintains that "Larsen et al. discloses a last hop node for defining a neighborhood cell (see figure 8 [0006] [0008] [0015], probing signal message)....Larsen recognizes if the establishing of communication between a source mobile subscriber unit and a destination unit is achieved through wide area network coverage when the source mobile subscriber unit is outside of the neighborhood cell, switching over to ad hoc wireless network coverage when the source mobile subscriber unit enters the neighborhood cell; and if the establishing of communication between a source mobile subscriber unit and a destination unit is achieved through the ad hoc wireless network coverage when the source mobile subscriber unit is within the neighborhood cell, switching over to the wide area wireless network coverage when the source mobile subscriber unit exits the neighborhood cell."

As noted above with reference to claim 1, while Larsen et al shows a last hop node, Larsen et al clearly does not show or suggest the switching over as alleged above by the Examiner and clearly does not show the last hop node as recited by claim 16.

The Examiner concedes that the "combined system (Dehner - Larsen) are silent to disclosing a source mobile subscriber unit with first and second source transceivers for wide area and ad hoc networks and relies on Karaoguz for this teaching. Applicant concedes that Karaoguz shows a multimode device with multiple transceivers, however nothing is mentioned about a wide area transceiver. Even if *arguendo* one construes Karaoguz to show the claimed first and second transceivers with there respective features, Karaoguz does not show or suggest the last hop node as claimed.

Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

Thus the references cited by the Examiner taken in any combination fail to show the claimed last hop node and functionality of such a node as recited by claim 16 and claims dependent on claim 16.

Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 16-20 under 35 U.S.C. 103(a) as being unpatentable over Dehner, et al (US Pat. No.6,882,677 B2) in view of Larsen, et al. (U.S. Pub. No. 2001/0036810 A1) in view of Karaoguz (US Pat. No. 7,114,010 B2).

f) Claim 21 stands rejected under 35 U.S.C. 103(a) as being unpatentable over the combined system Dehner, et al (US Pat. No.6,882,677 B2) in view of Larsen, et al. (U.S. Pub. No. 2001/0036810 A1) in view of Karaoguz (US Pat. No. 7,114,010 B2) in view of Razavillar, et al. (U.S. Pat. No. 7,009,952 B1).

Claim 21 is dependent on claim 16 and claim 16 is believed to be allowable over these references and thus claim 21 at least by virtue of dependency should likewise be allowable.

Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claim 21 under 35 U.S.C. 103(a) as being unpatentable over the combined system Dehner, et al (US Pat. No.6,882,677 B2) in view of Larsen, et al. (U.S. Pub. No. 2001/0036810 A1) in view of Karaoguz (US Pat. No. 7,114,010 B2) and in view of Razavillar, et al. (U.S. Pat. No. 7,009,952 B1).

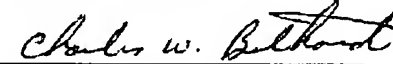
Appl. No. 10/014,676  
Amendment dated November 2, 2007  
Reply to Office Action of August 9, 2007

Accordingly, Applicant respectfully submits that the pending claims clearly and patentably distinguish over the cited references of record and as such are to be deemed allowable. Such allowance is hereby earnestly and respectfully solicited at an early date. If the Examiner has any suggestions or comments or questions, calls are welcomed at the phone number below.

Although it is not anticipated that any fees are due or payable since this response is being timely filed within the allowed 3 month time period and no other fees appear to be due or payable, the Commissioner is hereby authorized to charge any fees that may be required or credit any overpayments to Deposit Account No. 50-3435.

This response is being filed in a representative capacity by Charles W. Bethards, Registration number 36,453, in accordance with the provisions of 37 CFR 1.34.

Respectfully submitted,

  
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